Welcome!

Please
Stand-by,
our meeting
will begin
shortly.

Note: Today's WebEx will be recorded.



Multipollutant Stakeholder Group Meeting Agenda

701 W. Ormsby Ave, Edison Center April 13, 2020

Facilitator: Michelle King, APCD Director of Program Planning	Lead	Start	Stop	Duration (mins)
Welcome & Introductions	Steve Sullivan, MPSG Co- Chair	2:00	2:08	08
Reconvening Process and Logistics	Michelle King, APCD			
 Process to date review 	Director of Program	2:08	2:18	10
 Overview of final meeting agendas 	Planning	2.00	2.10	10
 Feedback process 				
Outreach and Education Committee Overview	Torend Collins,			
Committee review	Environmental	2:18	2:48	30
Committee recommendations	Coordinator	2:18		
Health Committee Overview	Byron Gary, Regulatory			
Committee review	Coordinator and Torend	2:48	3:18	30
 Committee recommendations 	Collins, Environmental	2.40		
	Coordinator			
Discussion and questions	All	3:18	3:38	20
Review of Recommendation Feedback Process to date and	Michelle King, APCD			
discussion as needed	Director of Program	3:38	3:50	12
	Planning			
Meeting Review and Follow-up Items	Steve Sullivan and Dr.			
	Geoffrey Cobourn, MPSG	3:50	4:00	10
	Co-chairs			





Multipollutant Stakeholder Group Meeting

Air Pollution Control District April 13, 2020

Welcome & Introductions

 MPSG Co-chairs and Participants



Reconvening Process and Logistics

Michelle King, APCD,
 Director of Program Planning



Process to date review



Convening the Multipollutant Stakeholder Group (MPSG)

- November 6, 2019
 - Introduction to APCD
 - Overview of MPSG Process and Goals

Lead

Ozone

Sulfur Dioxide

Particulate Matter (PM10)

Particulate Matter (PM2.5)

 $150 \, \mu g/m^3$

12.0 $\mu g/m^3$

 $35 \, \mu g/m^3$

0.070 ppm

75 ppb

24-hour

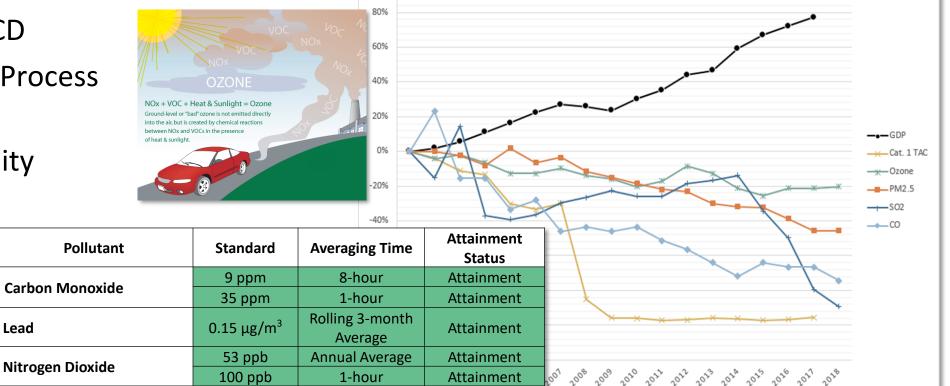
Annual Average

24-hour

8-hour

1-hour

- Louisville's Air Quality
 - Criteria Pollutants
 - Ozone
 - Air Toxics



Attainment

Attainment

Attainment

Nonattainment

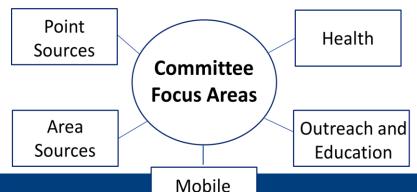
Partial County

Nonattainment



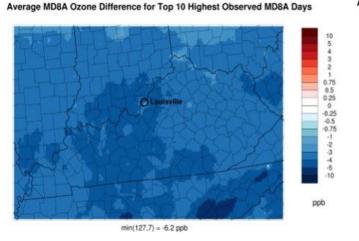
MPSG Meetings

- November 20, 2019
 - Louisville Air Quality A Deeper Dive
 - Ozone Formation Study
 - Bottom Line Nitrogen Oxide reductions are really important most of the time.
 VOCs can be key on some days.
 - Fine Particulates Trends and Sources
 - Air Toxics Trends and Sources
 - Committee Overview



Sources

NOx Sensitivity - 2016 Base Case



NOx emissions reductions decrease Top10 MDA8 ozone by 3.8 ppb in Jefferson County and 6.2 ppb overall (in southeast) VOC Sensitivity - 2016 Base Case

Average MD8A Ozone Difference for Top 10 Highest Observed MD8A Days



VOC emissions reductions decrease Top10 MDA8 by 1.3 ppb

Reductions are most effective in Jefferson County



MPSG Meetings

- December 11, 2019
 - Committee Kick-Off
 - Emission Reduction Examples
 - Point
 - Area
 - Mobile
 - Health Recommendation Examples
 - Outreach and Education Recommendation Examples





Committee Process

- Committee Selection and Recruitment
 - Online Sign-up Form
 - 5 Committees with more than 60 participants
- Committee Meetings
 - 37 Committee meetings (6 Point, 6 Area, 7 Mobile, 6 O&E, 6 Health)
 - December 18th through March 13th
 - More than 90 Recommendations developed









Overview of final meeting agendas



MPSG Reconvening

- MPSG Reconvening
 - April 6, 2020 Committee Process and Recommendation Overview
 - Point Source Committee
 - Area Source Committee
 - Mobile Source Committee
 - Recommendation Feedback Form
 - April 13, 2020 Committee Process and Recommendation Overview & MPSG Process Wrap-up
 - Outreach and Education Committee
 - Health Committee
 - MPSG Final Steps
 - Recommendation Feedback Form



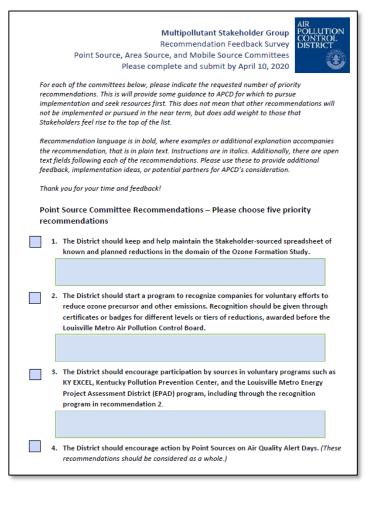


Feedback Process



Recommendation Feedback

- Fillable form via email
- Identify Priority Recommendations from each subject area
- Provide feedback on and ideas for implementation and potential partnerships
- Two rounds of feedback
 - Point, Area, and Mobile Source Committees
 - Outreach & Education and Health Committees
- Results in MPSG Final Report





Outreach & Education Committee Overview & Discussion

Torend Collins, APCD,
 Regulatory Coordinator



Committee Overview

- Committee Structure
- Committee Goals



Committee Structure

- Committee Meetings
 - Facilitated by APCD staff and Committee Co-chairs:
 - Allison Smith, Ph.D. (Develop Louisville)
 - Mikal Forbush (Center for Neighborhoods)
 - Involved presentations and discussions among committee members to help better understand APCD's current engagement efforts.

- Committee Members
 - Community organizations
 - Housing coalitions
 - Industry
 - Consultants
 - Regional Planning Agency
 - Louisville Metro Government





Committee Goals

- Goal 1 Review current efforts to communicate Louisville's nonattainment status for ozone and recommend additional strategies to raise awareness of the need for air quality improvement.
- Goal 2 Identify audiences for sharing information and conducting more engagement around air quality and its impact on health.
- Goal 3 Propose community partnerships to promote air quality and environmental health awareness.
- **Goal 4** Propose new programs that give citizens opportunity and information to reduce their own emissions contribution and health impacts from poor air quality.
- Goal 5 Support/amplify the messaging of other groups that promote lowering air emissions and limiting exposure to emissions.
- Goal 6 Create a conduit for community feedback, input, funding opportunities and donations



Recommendation Development Process

- Overview of Outreach & Education
 Initiatives Examples
- Exploring Community Feedback
- Brainstorming and Consensus Building



Overview of Outreach & Education Initiatives – Examples

- APCD Clearing the Air Workshop Series
 - Increases the accessibility of information related to APCD's work
- Louisville Air Watch
 - Provides real-time air quality data from EPAapproved air monitors located throughout Kentuckiana
- Kentuckiana Air Education (KAIRE)
 Program
 - Increases awareness of the impact individual choices have on local air quality



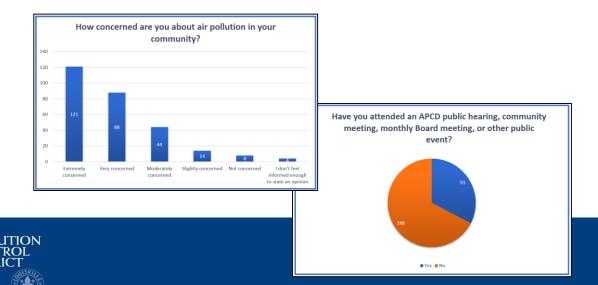




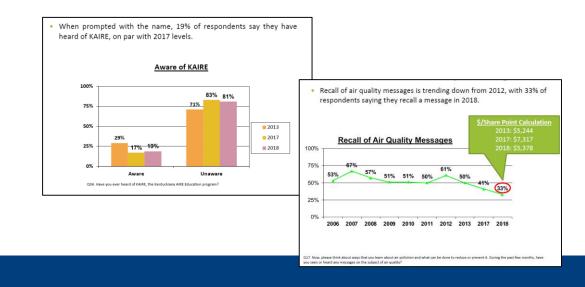


Exploring Community Feedback

- APCD Community Engagement Survey
 - Committee reviewed community feedback to better understand what information is needed as it pertains to air quality
 - Committee analyzed results to see how to best to communicate air quality info; what did the public recommend?

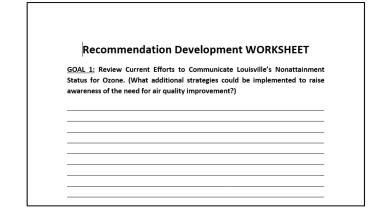


- KAIRE Survey
 - Committee reviewed data from the survey to better understand the perceptions of air quality, the effectiveness of air quality messaging, the effectiveness of KAIRE programs, etc.



Brainstorming and Consensus Building

- Brainstorming
 - 3 breakout groups
 - Developed recommendations for each goal
- Consensus Building
 - Determined which recommendations to share in final report
 - Performed "Keep, Remove, Strengthen" exercise
 - Voting = Majority rule





PROPOSED RECOMMENDATIONS						
Note: <u>The following recommendations are summarize</u> Outreach & Education Commit	_		ing our MPSC	ĵ		
The committee combined proposed goals 2 and 3 to the contact information for organizations/businesse: use this list to assist with engagement initiatives. The committee's Google drive.	s/commu	nity groups.	The APCD car			
Goal 1: Develop additional strategies nonattainment status for ozone.	to com	<u>municate</u>	Louisville's	<u>s</u>		
		_		,		
Recommendations	Keep	Remove	Strengther	-		



Committee Recommendations

- Goals 2 and 3: Community Engagement Efforts Spreadsheet
- Goals 1, 4, 5 and 6



Community Engagement Efforts Spreadsheet

- Spreadsheet with contact information for representatives from local organizations, businesses, industry, academia, etc.
- APCD will use spreadsheet to disseminate air quality information.

Organization/Agency/Business	Resources/initiative
AARP (American Association of Retired Persons)	Access to the 50+ population in Louisville Metro
APCB (Air Pollution Control Board)	The regulatory authority for air pollution control in Louisillie; members are appointed by the Mayor and approved by Metro Council; Provide Board Reports, meeting minutes to public
APCD	KAIRE (Kentuckiana Air Education)
APCD (Air Pollution Control District)	Clearing the Air Weshp Series
Archidiocese of Louisville	
BLM (Black Lives Matter) - Housing Justice Team	
California Neighborhood Leadership Council	
CEPM (Center for Environmental Policy and Management) - Housing Justice Group	Provides a range of technical and research assistance to local, state and tribal governments, businesses, and nonprofit organizations; work includes the development of practice guides, policy reports, toolNts ar
CFN (Center for Neighborhoods)	Incubator for cultivating grassroots leadership, providing leadership education, partnering with neighborhoods in community planning, facilitating dialogue and assisting with neighborhood-based development
Chickasaw Neighborhood Federation	
Corona Spanish Media	
Environe Institute	Research institute seeking to unite a multidisciplinary group (physicians, scientists, economist, chemists, engineers, community members, epidemiologists, etc.) to turn scientific discovery into knowledge that w
Girl Scouts	
GLI (Greater Louisville Inc.) - The Metro Chamber of Commerce	
InsideClimate News	
Interfaith Power and Light	Mobilizes a relisious response to climate change through conservation, efficiency and renewable energy
JCPS (Jefferson County Public Schools)	
Jefferson County Extension Service	
KCHMM - Kentuckiana Chapter of Hazardous Materials Managers	
KFTC (Kentuckians for the Commonwealth) - Environmental Justice & Air Quality Team	
KIPDA	Area Agency on Aging
KIPDA (Kentuckiana Regional Planning and Development Agency)	Every Commute Counts
KRC (Kentucky Resources Council)	A non-profit that protects KY's built and natural communities from pollution and environmental damage
LCAN (Louisville Climate Action Network)	Offers free, customized programs showing ways to reduce Louissille's carbon footprint, and advocates for smarter public policies both to reduce carbon pollution and cut costs
LG&E (Louisville Gas and Electric)	Local utility company



Goal 1: Develop additional strategies to communicate Louisville's nonattainment status for ozone.

- Attend/speak/present at community organizations.
- Engage media partners for education and outreach.
- Work closer with Metro Council members to strategically distribute information.
- Provide AQI information in Neighborhood Places.
- Develop air quality information specifically tailored to industry (i.e., APCD permitted entities) to help industry employees better understand the importance of air quality awareness and Air Quality Alert days.



Goal 1: Develop additional strategies to communicate Louisville's nonattainment status for ozone (cont'd).

- Work with local schools, libraries and after school programs to ensure air quality info (local specific) is available for inclusion in science curriculum.
- Participate in the Air Quality Youth Summit, in-person or virtual.
- Use billboards and other visual advertising.
- Get Air Quality Index (AQI) information to healthcare professionals (*i.e.* doctors with asthma patients, patients with COPD, etc.).
- Utilize the NextDoor app and other social media platforms.
- Encourage Air Quality Alert day notifications be included in other Metro department and agency communications.



Goal 4: Propose new programs giving citizens opportunity and information to reduce their own emissions contribution and health impacts from poor air quality.

- Provide presenters and content for more diverse conferences to share air quality information.
- Develop air quality information in short videos/virtual series (e.g., Enviro-minutes).
- Create a program where APCD hosts Air Quality Hours at local businesses (e.g., Green Drinks, "AQ is Important; Prove me wrong!", or "Beer with a Scientist").
- Create trivia night content on/about air quality.



Goal 4: Propose new programs giving citizens opportunity and information to reduce their own emissions contribution and health impacts from poor air quality (cont'd).

- Host a "Festival of the Environment."
- Increase consumer awareness of:
 - EV technology, costs, performance, and available incentives.
 - Air quality friendly transportation options.
 - Solar panels technology, costs, performance, and available incentives.



Goal 5: Support/Amplify air quality messaging.

- Translate air quality messaging into other languages.
- Personalize air quality messaging so it appeals to broader audiences.
- Setup a calendar of tabling events to attend and share air quality information with attendees beyond the usual demographic.
- Advise the District to continue convening (i.e., quarterly) the MPSG Outreach & Education Committee to continue assisting APCD with its engagement, outreach and education efforts.
- Use infographics.
- Use social media platforms and the internet to cross-post messaging.
- Identify other groups' messaging and sculpt our messages to resonate.



Goal 6: Create a conduit for community feedback, input, funding opportunities and donations.

- Develop a webpage to receive information, projects, program ideas and requests.
- Develop an RFP process for the Air Pollution Control Board (APCB) Trust to increase awareness of the Trust as a funding source for potential air quality projects.
- Develop materials (i.e., surveys, questionnaires) used to obtain feedback from the community that can be shared at on-the-go tabling events (e.g., community festivals, health fairs, etc.).
- Help the District identify and promote newer technologies for APCD permitted entities and industry (and help to identify funding mechanisms).



Health Committee Overview & Discussion

- Byron Gary, APCD,
 Regulatory Coordinator
- Torend Collins, APCD,
 Regulatory Coordinator



Committee Overview

- Committee Structure
- Committee Goals



Committee Structure

- Committee Meetings
 - Facilitated by Committee Chair, Robert Powell, M.D., and APCD staff
 - Involved presentations and discussions among committee members about the health impacts of ambient air



Committee Members

- Community organizations
- Industry Reps
- Consultants
- Regional Planning Agency
- Louisville Metro Government
- Academic Institutions



Committee Goals

- Identify health risks to Louisville Metro residents from exposure to ozone, fine particulates, and air toxics.
- Evaluate the potential for ozone, fine particulate, and air toxics reductions to improve health and monetize public health benefits where possible.
- Assess the disparate impacts of these pollutants on minority and low-income residents.
- Identify additional questions or areas of study to help inform the community on how to reduce exposure to air pollution and mitigate potential health impacts.



Review Known & Planned Programs

- Air Quality Index
- Louisville Air Watch
- The Environmental Justice Collaborative Problem-Solving Cooperative Agreement Program

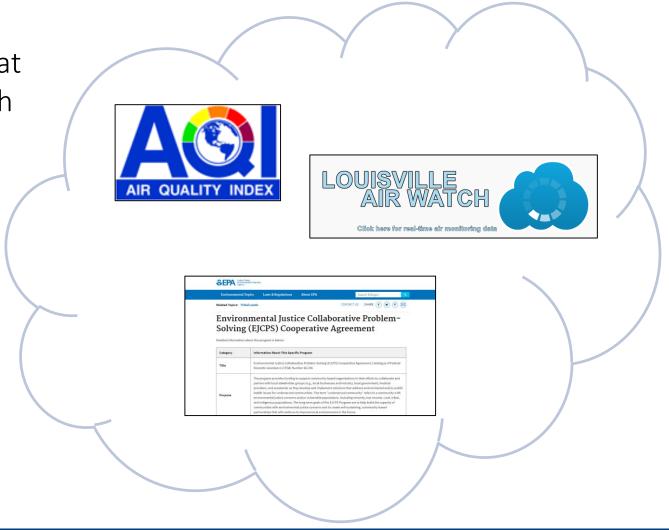


Known & Planned Programs

• <u>Air Quality Index (AQI)</u> - helps explain what local air quality means to individual health

<u>Louisville Air Watch</u> - provides air quality monitoring information

 EJCPS Cooperative Agreement - raises awareness around environmental and public health issues





Health Reports and Data

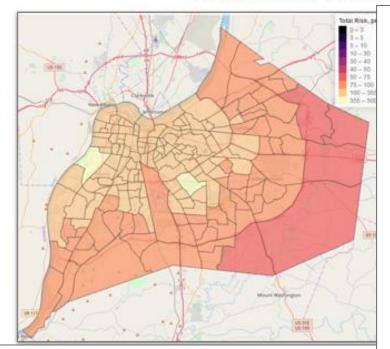
- National Air Toxics Assessment (NATA)
- Air Louisville
- Health Equity Report (2017)



NATA

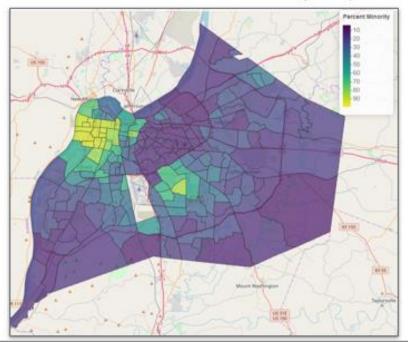
Progress to Date

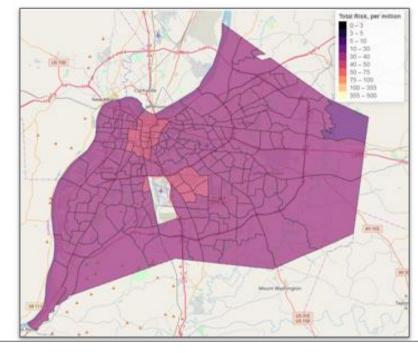
2005 v 2014 National Air Toxics Assessment - Total



Progress Remaining

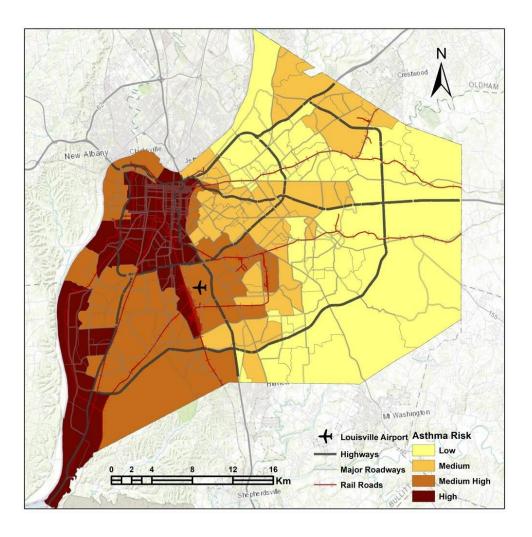
2010 Minority Population v 2014 NATA Total Risk







Air Louisville – Results

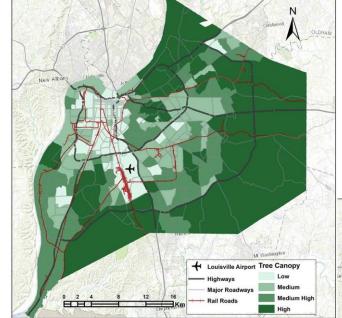


- Rescue medication (e.g. inhaler use)
 "happened more often on days with higher
 temperatures and pollutant levels, including:
 Nitrogen dioxide (NO2), ozone (O3) and sulfur
 dioxide (SO2)."
- Increased healthcare costs to individuals and families living in communities with polluted air



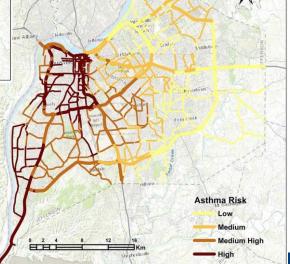
Air Louisville – Recommendations

- Increase tree coverage = target neighborhoods and communities throughout Louisville Metro with the lowest tree canopy
- Collaborate with local organizations and other entities to reduce asthma and COPD triggers
- Change city-wide zoning policies
- Identify alternate truck routes that deviate from entering high risk neighborhoods



Source: Air Louisville

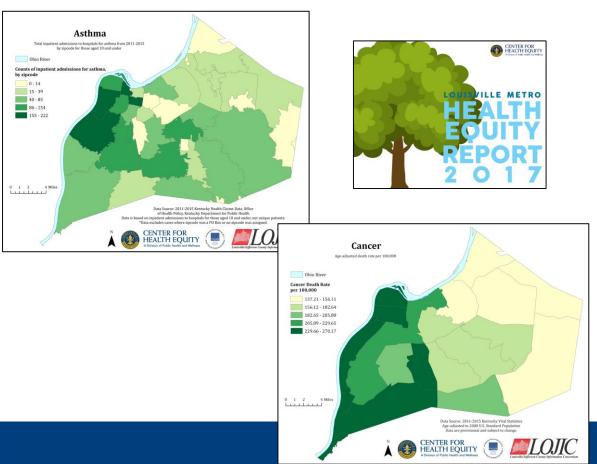
https://airlouisville.com/results.html





Health Equity Report (2017)

Environmental Quality



Root Causes

- "In particular children who live in poverty are more likely to live near industries that emit toxins into the environment."
- "With significantly higher temperatures, the urban heat island effect can lead to higher levels of air pollution and air quality problems that are known to trigger asthma attacks."

Other Projects

- <u>Envirome Institute Green Heart Project</u>
- EPA Louisville Metro Health Benefits Analysis (BenMAP Results)



<u>Envirome Institute – Green Heart Project</u>

- Scientific experiment testing if increasing green space in a neighborhood improves air quality and human health with the goal of developing a "greenprint" for creating healthier neighborhoods.
- Study invited people ages 25 to 70 from Louisville neighborhoods; participants' health monitored before planting and after planting of trees via two appointments (one in 2019 and another in 2021).



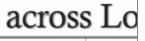
Green Heart is an opportunity to establish roots as a healthier, greener neighborhood.

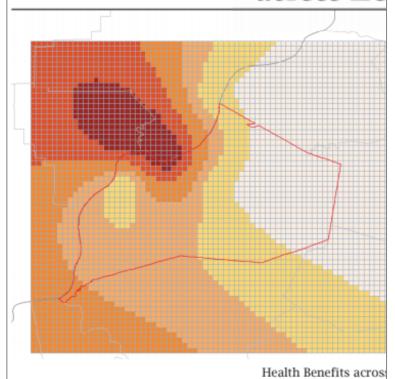


EPA – Louisville Metro Health Benefits Analysis (BenMAP) Results

Quantifying the Change in Air Quality







Health Benefits in Jefferson County from PM_{2.5} Reductions between 2014 and 2018

PM _{2.5} -Related Health Effects	Avoided Incidence
Avoided Premature Deaths per Year	
Krewski et al. (2009) (adult)	73
Lepeule et al. (2012) (adult)	165
Woodruff et al. (1997) (infant)	0.5
Number of Avoided Cases per Year	
Hospital admissions—respiratory (all ages)	6.1
Hospital admissions—cardiovascular (age > 18)	8.5
Emergency department visits for asthma (all ages)	43
Acute bronchitis (age 8–12)	82
Lower respiratory symptoms (age 7–14)	1,050
Upper respiratory symptoms (asthmatics age 9-11)	1,500
Asthma exacerbation (age 6–18)	2,100
Lost work days (age 18–65)	7,700
Minor restricted-activity days (age 18–65)	45,700
Number of Avoided Non-Fatal Heart Attacks per Year (age >18)	
Peters et al. (2001)	68
Pooled estimate of four studies	7.4

Health Benefits across Louisville - February 6, 2020

Recommendation Development

- Pollutants (Ozone, PM, Toxics)
- Health Outcomes (Cancer, Cardiovascular, COPD, Asthma)
- Geographic Locations (West of I-65, hotspots)
- Indoor Air Pollution



Committee Discussion Guide

Health Committee Multipollutant Stakeholder Group

Discussion Guide.

Committee Goals:

- · Identify health risks to Louisville Metro residents from exposure to airborne pollutants
- · Evaluate potential improvements to public health with reduction of airborne pollutants
- · Assess disparate impacts on minority and low-income residents
- Identify how the community can reduce exposure to airborne pollutants and mitigate potential adverse health impacts

Optional Organizational Constructs for the Committee to meet these Goals

- 1. Identify and Assess Health Impacts of Major Air Toxins
 - a. PM2.5 particulates
 - Health concerns: nose and throat irritation; aggravation of coronary and respiratory disease symptoms; and premature death in people with heart or lung disease
 - Sources: car, truck, bus and off-road vehicle (e.g., construction equipment, snowmobile, locomotive) exhausts, other operations that involve the burning of

- Drafted by committee member (Russ Barnett, UofL).
- Provided a process for developing committee recommendations; helped committee frame the discussion to focus on topics addressed in proposed committee goals.



Pollutants and Health Outcomes

- Reviewed pollutants in Louisville impacting human health
 - Focused on ozone, PM (particulate matter) and air toxics
- Discussed health outcomes associated with exposure to pollutants
 - Focused on cancer, cardiovascular disease,
 COPD and asthma
 - Moved conversation beyond regulatory agencies; allow other organizations and healthcare professionals the opportunity to provide insight





Geographic Locations and Indoor Air Pollution





- Reviewed the relationship between geographic location and exposure
 - Examined geographic locations within/around/near expressways and other areas with heavy transit traffic; explored how areas are more heavily impacted by air pollution
 - Recommendations could focus on how to best go about minimizing exposure to those communities
- Brief discussion of the impact indoor air pollution has on human health
 - Examined advantages and disadvantages of focusing on indoor air



Committee Recommendations

- 12 Recommendations
- No preferential ordering



Recommendation 1

 The District should investigate opportunities to enhance the official monitoring network. Places that should be investigated for additional monitoring or sensors should include a focus on communities disproportionately impacted by air pollution, hotspots indicated in EPA's NATA, as well as around known sources of toxics and fine/ultrafine particulates.



Recommendations 2 and 3

- The District should ensure community involvement is integral to planning the enhanced monitoring network and when making plans for further analysis (e.g. California AB 617).
- University of Louisville and Metro Health and Wellness should investigate forming a "bio-bank" to voluntarily collect samples from those admitted to the hospital to analyze for analytes of toxics and possibly identify hotspots in communities.



Recommendation 4

Louisville Metro Government should mandate the use and incorporation
of environmental and health impacts in planning decisions such as those
guided by the Comprehensive Plan. Updates to the Land Development
Code which require analysis of air quality impacts (including cumulative
impacts) or monitoring, particularly in low-income, minority, or near
sensitive populations should be studied (e.g. California AB 617, Minnesota
Green Zones).



Recommendations 5 and 6

 Louisville Metro Government should advocate that federal transportation funds intended to improve air quality, such as the VW settlement funds and CMAQ funding, be spent primarily in areas with current nonattainment status.

• Louisville Metro Government should consider how much a project can decrease the health impacts associated with air pollution when choosing projects eligible for CMAQ funding.



Recommendation 7

• Louisville Metro Government should prioritize urban heat island (UHI) mitigation strategies that also improve air quality such as vegetative solutions.



Recommendation 8

- The Louisville Metro Government Office of the Mayor should create and house a "Natural and Built Environment Steering Group."
 - a) The Steering Group should house a clearinghouse of reports and studies relating to the natural and built environment in Louisville, with the goal of harmonizing across redundant initiatives and coordinating resources.
 - b) The Steering Group should review decisions within Metro that impact the Natural and Built Environment and make recommendations on harmonizing such decisions with recommendations from various reports.



Recommendations 9 and 10

 The District should provide recommendations for the next Health Equity Report focused on air impacts in vulnerable communities or at-risk populations.

 Louisville Metro Government should encourage the study of the health impacts of indoor air quality.



Recommendations 11 and 12

 Louisville Metro Government should encourage the study of the health impacts of ambient air quality.

• Louisville Metro Government should strongly advocate for the consideration of public health impacts in utility decisions by the Public Service Commission (PSC).



Discussion & Questions

All



Review of Feedback to date and discussion as needed

 Michelle King, APCD Director of Program Planning



Meeting Review and Follow-up Items

MPSG Co-Chairs



Thank you!



Louisville Metro Air Pollution Control District

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